

**STATEMENT OF WORK (SOW)**

**FOR**

**Live Training Transformation (LT2)  
Interim Range System (IRS)**

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**Statement of Work  
For  
Live Training Transformation (LT2) Interim Range System (IRS)**

**1.0 SCOPE**

This Statement of Work (SOW) defines the work efforts for producing, managing, verifying, and fielding of the LT2 IRS.

**1.1 Background**

The U.S. Army Program Executive Office Simulation, Training and Instrumentation (PEO STRI) has a requirement for producing and fielding the LT2 IRS for the Project Manager Training Devices (PM TRADE. LT2 IRS will provide the Instrumented Player Unit, Individual and Vehicle installation kits, and range infrastructure for LT2 training systems. The LT2 IRS will connect to the current and future LT2 Product Line Exercise Control (EXCON) hardware suites via the LT2 Player Unit <-> CTIA Common Message Set ICD.

**2.0 Applicable Documents**

The following documents of issue shown on the Document Summary List (DSL) form a part of this SOW to the extent specified herein. In the event of a conflict between documents referenced herein and the contents of this SOW, the contents of the SOW shall be the governing requirement.

**2.1 Department of Defense Standards**

The following DoD standards are available on the WWW at URL:  
<http://assist.daps.dla.mil/quicksearch/>

MIL-STD-130N	Identification Marking of U.S. Military Property
MIL-STD-31000	Technical Data Packages
MIL-PRF-49506	Appendix A and B Logistics Management Information
MIL-STD-40051-2A	Preparation of Digital Technical Information for Page-Based Technical Manuals (TMs)

**2.2 Other Government Documents, Drawings, and Publications**

- a. The following is available on the WWW at URL <http://www.apd.army.mil/>

AR 25-2                      Information Assurance

- b. The following are available on the WWW at URL <http://www.dtic.mil/whs/directives/>

DODD 8500.01E              Information Assurance (IA)

DODI 8500.2            Information Assurance (IA) Implementation

DODI 8510.01        DoD Information Assurance Certification and Accreditation  
Process (DIACAP)

- c. The following is available on the WWW at URL  
[www.acq.osd.mil/dpap/dars/dfarspgi/current/index.html](http://www.acq.osd.mil/dpap/dars/dfarspgi/current/index.html)

DFARS 252.211-7003        Item Identification and Valuation

- d. The following is available on the WWW at URL <http://jtaonline.disa.mil/VJTA/index.jsp>

DISR    Department of Defense (DoD) Information Technology Standards

- e. The following are available at Business Opportunities Portal or by request from PEO  
STRI, ATTN: SFAE-STRI-KOL, 12350 Research Parkway, Orlando, FL 32826.

PEOSTRI Basic Accreditation Manual (BAM) dated 1 Sept 08

PRF-PT-00533B        System Specification for the Live Training Transformation (LT2)  
Interim Range System (IRS)

### **2.3 Live Training Transformation (LT2) Portal Products**

The following are available on the LT2 Portal at URL <https://www.lt2portal.org/>

Specification Document for the Radio Frequency Identification (RFID) Tag Numbering  
Plan for the Live Training Transformation (LT2) Community, Version 1.0

ICD Ver. 1.0.2            LT2 Player Unit <-> CTIA Common Message Set ICD

## **3.0 LT2 IRS**

You shall provide the necessary resources, equipment and facilities to fabricate, integrate,  
deliver, install and test LT2 IRSs and perform all tasks as specified herein.

### **3.1 Specifications**

The LT2 IRS shall meet the performance criteria specified in PRF-PT-00533B.

### **3.2 System Integration**

LT2 IRS Specification PRF-PT-00533B provides the integration requirements between the IRS,  
TES and the LT2 Product Line.

### **3.3 Product Definition Data**

You shall produce and maintain Product Definition Data (PDD) that accurately and completely depicts the LT2 IRS. You shall identify IRS subsystems capable of being procured independently such as towers, trailers, battery charging systems, installation kits and the like; utilize logistics analyses to identify IRS assemblies, and components to be repetitively procured as spares; and determine and document the performance requirements for each of these subsystems, assemblies and components to include the environment in which it must operate, interface and interchangeability characteristics, and methodology for verifying performance. For elements of the IRS developed with Government funding and for modifications to commercial and non-developmental IRS elements you shall develop, produce, and maintain a production level technical data package (TDP) IAW MIL-STD-31000 that provides design, engineering, manufacturing and quality assurance requirements information sufficient to procure or manufacture an interchangeable item that duplicates the physical and performance characteristics of the original product, without additional design engineering effort or recourse to the original design activity. For existing commercial and non-developmental IRS elements you shall develop, produce, and maintain commercial documentation IAW MIL-STD-31000 containing the engineering, and manufacturing information necessary to assemble and integrate these items into the IRS and verify performance. You shall utilize existing commercial drawings, documentation and specifications where possible. You shall obtain document numbers from the Government for the PDD elements you create under this contract. You shall not add prefixes or suffixes to the numbers. All unused numbers shall be returned upon completion of PDD preparation. (DI-EGDS-80918, DI-SESS-81003D, DI-SESS-81000D and DI-SDMP-81493A)

### **3.4 Deviations**

You shall not change the LT2 IRS baseline – hardware or software – without the government's permission. You shall provide to the government the justification for the change request, complete cost of the change and impacts if the government chooses not to accept the change.

### **3.5 Electromagnetic Environmental Effects (E<sup>3</sup>)**

You shall ensure that the system electronic or electrical hardware configuration is not a source of electromagnetic interference (EMI) or a victim of E<sup>3</sup> in the intended operational environment in which it is installed or at its operational locations. You may assert compliance with specification requirements through provision of certificates of compliance and supporting documentation.

### **3.6 Spectrum Compliance**

You shall provide at post award conference proposal all information required for the Application for Equipment Frequency Allocation (DD-1494) to be used by the Government to determine whether or not the proposed system will interfere with other existing systems at training sites. You shall provide the Spectrum Supportability Determination Report (DI-MISC-80711A).

### **3.7 Containerization, Packing, Storage, and Transportability**

Moved to IRS Specification paragraphs 3.9 and 3.11.4

### **3.8 Tools and Test Equipment**

You shall identify all tools and test equipment required for the-installation, initialization, operation, and maintenance of the LT2 IRS. You shall provide any required unique tools and test equipment not otherwise available at time of fielding. (DI-ALSS-81529, DI-ILSS-80868). Unique tools and test equipment do not include common hand tools and test equipment.

### **3.9 Technical Publications**

You shall provide technical publications as required to operate and maintain the LT2 IRS. The operations and maintenance instructions shall accurately provide the operators and technicians with all the information needed to operate and keep the system in good working order. The instructions shall provide system and subsystem oriented instructions for installation, operation, maintenance, and testing. You shall describe cold start and system initialization processes for each system/subsystem.

All tools, test equipment and consumable items required to accomplish any maintenance or installation shall be identified just prior to and as part of the task. Use of COTS manuals is encouraged but you shall review and change the manuals as required. All publications shall reflect the configuration of fielded hardware as documented in the product baseline. (MIL-STD-40051-2A, DI-TMSS-80527B, DI-IPSC-81443A)

### **3.10 Item Unique Identification (IUID) of Tangible Items**

You shall implement an Item Unique Identification of tangible items program in accordance with MIL-STD-130N. These requirements apply to developed and commercial items. You shall coordinate with the government and identify UID type, the UID to be used, and items requiring unique identification including embedded subassemblies, components and parts. You shall provide unique item identification or a DoD recognized unique identification equivalent, for all identified items delivered and you shall submit this data to the UID central registry. UID marking of items shall be both machine readable and human readable. (DI-MGMT-80177A)

### **3.11 RFID Tags**

You shall attach an RFID tag with unique serial number to each IRS Player Unit Radio (IPUR) IAW the specification for RFID tag numbering for the LT2 community. You shall record required information for each IPUR IAW the specification. The government will provide the RFID serial number range for each set of IPURs. (DI-MISC-80711A)

### **3.12 Spares**

You shall perform the analysis to determine the recommended spares list which will be delivered under this contract. The list shall be submitted to the government for approval. (DI-ILSS-80134A; DI-ALSS-81530).

## **4.0 Programmatic**

### **4.1 Post Award Conference**

A post award conference shall be held at a mutually agreed to facility within 15 days after contract award. The conference shall introduce key participants with emphasis on top level management of the program, identify points of contact and discuss both parties understanding of the scope of work, agree on metrics that will be used as management indicators, identify the partnering approach, and other contract issues.

### **4.2 Integrated Baseline Review**

You shall participate with the government in the assessment of program risk and the degree to which the following have been established:

- a. Technical scope of work is fully included and is consistent with authorizing documents.
- b. Project schedule key milestones are identified and supporting schedules reflect a logical flow to accomplish the work.
- c. Resources (budget, facilities, personnel, skills, etc.) are available and are adequate for the assigned tasks.
- d. Tasks are planned and can be measured objectively relative to the technical progress.
- e. Rationales underlying the review are reasonable.
- f. Management processes support successful execution of the project.

### **4.3 Management Reviews**

You shall conduct program reviews as required at your, subcontractor, vendor, or government facilities. A management review will occur approximately one month after each lot award. Teleconferencing shall be the preferred way to conduct informal working meetings. You are responsible for providing visibility on the progress, performance, and status of major subcontractors.

### **4.4 Integrated Master Schedule (IMS)**

You shall implement and maintain the contract IMS. All contract schedule information delivered or presented at program reviews shall originate from the IMS. The IMS shall address total

program activities including activities performed by subcontractors. The IMS shall be updated to reflect accomplished activities and any changes in activity time. (DI-MISC-81183A)

#### **4.5 Program Management**

You shall provide the overall management and administrative effort necessary to ensure that the requirements of this contract are accomplished. You shall track program progress utilizing metrics.

#### **4.6 Financial Management**

You shall plan, budget, schedule, and control resources allocated to meet requirements of the contract. You shall document and track status of all appropriated funds associated with the contract to include payments, cancellations and invoices against each contract line item and sub line item. You shall identify elements of subcontracted work in the extended Contract Work Breakdown Structure (CWBS) and may propose changes to the CWBS to enhance its effectiveness in satisfying program objectives. (DI-MGMT-81468, DI-MGMT-81651, and DI-MGMT-81334C)

#### **4.7 Risk Management**

You shall implement schedule risk management process. You shall:

- a. Identify and inform the government immediately when you will not meet a delivery date.
- b. Develop mitigation plans to meet the delivery date.
- c. Recommend courses of action to the government which will return deliveries to schedule.

#### **4.8 Safety Assessment and Health Hazard Analysis**

You shall ensure the safety of the IRS and that equipment is safe for personnel to transport, install, operate, maintain, support and dispose. You shall identify hazards, assess the risk, track hazards, mitigate hazards, verify corrective actions have been implemented and verify hazards have been eliminated or reduced to acceptable risk levels. . You shall provide Safety Release documentation for each vehicle platform listed in the IRS Specification paragraph 3.4.2. (DI-SAFT-80102B; DI-SAFT-80106B).

#### **5.0 Information Assurance (IA)**

You shall integrate Information Assurance (IA) into your engineering and management processes and ensure operational systems security in accordance with (IAW) DODD 8500.1E, DODI 8500.2, DODI 8510.01(DIACAP), AR 25-2, and the PEOSTRI Basic Accreditation Manual (BAM).

### **5.1 Implementation**

You shall implement IA and take action to address inherent system vulnerabilities and weaknesses. You shall ensure that all PPS not required in the operation of the system have been disabled or shut down and implement “deny all, permit by exception” (DAPE) enforcement for all PPS being used by the system. You shall implement all Security Technical Implementation Guides (STIG) and IA security controls, as required for a Platform Information Technology (PIT) system, as directed by the government. You shall maintain IAVA & STIG compliance of the IRS baseline and provide software update patches to the government, as required, on a quarterly basis through the life of the delivery order. You shall plan for and implement a means of maintaining IAVA & STIG compliance of the IRS baseline in use by the Government for the expected lifecycle of the system; or provide the system configuration information, documentation, application software and licenses for the Government to maintain IAVA & STIG compliance of the delivered baseline. (DI-MISC-80711A)

### **5.2 Verification**

You shall verify that protective measures appropriately address each specific security requirement. You shall test the system and its security controls using Army approved IA tools to ensure they meet a level of acceptability to the Certification Authority in preparation for certification. The Government will provide the third party certifiers to perform the Certification Testing 105 days prior to initial operational capability (IOC).

### **5.3 Information Security Planning**

You shall perform information security planning for the IRS based upon the IRS System Identification Profile (SIP) and the attached DIACAP Implementation Plan (DIP). You shall document the security requirements of the IRS and describe the controls and mitigation strategies that are in place in an IRS Information Security Plan (ISP) using the PEO STRI ISP template as a guide, and ensure the system is prepared for certification testing no later than 30 days prior to the Certification event. You shall delineate responsibilities and expected behavior of all individuals who access the system and present a structured process for maintaining system security. You shall ensure the ISP supports the protection of the confidentiality, integrity, availability and accountability of data being processed and provides written procedures on how to maintain the integrity of the system and associated data. You shall periodically evaluate and adjust the ISP to meet any changes in the system’s operational environment or as a result of testing and monitoring of the system’s IA controls. You shall perform contingency planning to help ensure sites where the IRS is deployed can continue operations in the event of an emergency or threat of an emergency for incorporation into each site’s specific continuity of operations plan (COOP). You shall define and document the procedures for restoring the system back into operation using the PEO STRI System Contingency Plan (CP) template as a guide. You shall develop and maintain a current and comprehensive list of all hardware and software comprising the IRS (to

include manufacturer, type and model), and a list of all ports, protocols and services (PPS) used by the system for incorporation into the Government's IRS configuration management plan (CMP). (DI-MISC-80711A).

## **6.0 Fielding**

You shall prepare, plan, and execute all fielding activities associated with the IRS. All fielding activities will be included in the Integrated Master Schedule (IMS) and changes to the same will be review by the IPT with final changes approved by the Government.

### **6.1 Site Survey**

You shall participate in site survey(s) at each site at a time agreed upon by the government. The purpose of the survey is to discuss and confirm arrangements for the installation and to provide information on any modifications required at the installation site. You will provide a site survey report to the government documenting all issues within 30 days of the survey. (DI-MISC-81381)

### **6.2 Range Coverage Study**

For each site deployment, you shall provide a coverage analysis study and recommended positions to deploy the LT2 IRS. The government shall provide one 20 Km by 20 Km or smaller training area and location of the LT2 EXCON. You shall provide the study at the TRR.

### **6.3 Fielding Acceptance Test Readiness Review (TRR)**

For each deployment of an IRS system, you shall attend the TRR for the LT2 suite as requested by the government. The fielding of IRS and the LT2 suite will be a coordinated effort. The following shall be reviewed during the TRR:

- Evidence that the LT2 IRS hardware was produced IAW specifications
- A list of outstanding problem reports.
- Detailed test procedures.
- Resource conflicts
- Range Coverage Study (as required)

The exit criteria for the TRR are the formal Government approval of the test procedures.

### **6.4 Transportation/Shipping**

You shall be responsible for the shipping the LT2 IRS to each fielding site.

### **6.5 Set Up and Initial Inventory**

You shall set up and ensure that the installed IRS is functioning correctly. You shall inventory the IRS equipment with the PM CTIS government representative.

### **6.6 New Equipment Training (NET)**

You shall provide NET training for operators and maintainers to the receiving organizations. This training shall be a self-contained course and provide detailed operational and maintenance knowledge of the entire IRS. You shall provide IRS operator and maintenance training manuals. (DI-SESS-81523B, DI-ILSS-80872)

### **6.7 Transfer of Property**

Upon successful Fielding Acceptance Test, you shall provide a prepared DD 1149 necessary for inventory and transfer of IRS to Government control.

### **6.8 Fielding Acceptance Test**

You shall operate and support the IRS in the acceptance test of the HITS upon deployment to the requisite locations. If a Range Coverage Plan was provided, part of the Acceptance Test is validation of the plan. You shall provide the results of each test to the government. (DI-NDTI-80809B), (DI-NDTI-80566)

### **6.9 Warranty**

You shall provide a warranty report and provide information on items under warranty (DI-SESS-81639)

## **7.0 Definition: IRS Modules**

The IRS will support a wide range of training requirements. The IRS contract solicits base systems with minimal quantities of components. The range price structure allows the purchase for additional components and quantities meeting both budget and training need.

The following defines what each of the IRS modules consists of. The modules are crossed referenced to the IRS CLIN listings.

### **7.1 HITS Production Test Package**

The HITS Production Package consists of the minimal IRS equipment needed for the HITS Production vendor to perform quality assurance and functional testing of the HITS suite. The testing will occur at the production vendor's location. At a minimum, the equipment required is an antenna, base station, gateway, four IRS Player Unit Radios (IPUR) and accessory items required to create a functioning network infrastructure to transfer Multiple Integrated Laser Engagement System (MILES) Tactical Engagement Simulation (TES) data to the EXCON.

## **7.2 LT2 IRS**

The base LT2 IRS consists of:

- HITS Range Infrastructure: Sufficient hardware to provide range coverage of the 20 Km by 20 Km training area at Ft Benning (defined in Specification Para 3.2.4) and IAW the Threshold specifications of LT2 IRS.
- Range Coverage Study Per SOW Paragraph 6.2
- IPUR (per SOW paragraph 7.4): 100 each
- Dismounted Installation Kit (per SOW paragraph 7.5): 100 each
- Battery Charger Module (per SOW paragraph 7.7 and Specification paragraph 3.5): Sufficient battery charging capability to charge 100 IPUR dismount kit batteries in 48 hours IAW the IRS specification.

Depending upon the training use case and funding, optional purchases of components will round-out the base IRS.

## **7.3 Antenna Node**

One set of antenna node equipment (antenna, masts, electronics, shelter, transport, etc) and back haul capability IAW the IRS specification paragraphs 3.2.2, 3.2.3, 3.6, 3.7, 3.8, 3.9, 3.10 and 3.11.

## **7.4 IPUR**

The IPUR IAW the IRS specification paragraph 3.3.

## **7.5 Dismounted Installation Kit**

The accessories required to install the IPUR on personnel, to include: carrying case, cable to the TES, primary battery and spare, battery cable, etc IAW the IRS specification paragraph 3.4.1.

## **7.6 Vehicle Installation Kit**

The accessories required to install the IPUR on combat and combat support vehicles, to include: installation brackets/cases, cable to the TES, battery cable (if needed), etc IAW the IRS specification paragraph 3.4.2.

## **7.7 Battery Charger**

Sufficient battery charging capability to charge 100 Dismounted Installation Kit batteries in 48 hours IAW the IRS specification paragraph 3.5.

### **7.8 Existing Communications Site**

The contractor shall provide one set of antenna node equipment (antenna, electronics, etc) to the Government. The equipment will be install by a third party as GFE on an existing Exportable Training Capability Instrumentation System (ETC-IS) antenna node IAW the IRS specification paragraph 3.7.2.

### **7.9 EXCON Station Equipment**

One set of equipment needed at the ETC-IS exercise control center that connects to the LT2 range system to the ETC-IS LT2 Exercise Control suite. The ETC-IS LT2 Exercise Control suite equipment needed at the ETC-IS will be provide by the government.

### **8.0 Acronyms**

BAM – Basic Accreditation Manual  
CTIA – Common Training Instrumentation Architecture  
CWBS – Contract Work Breakdown Structure  
DIACAP – DoD Information Assurance Certification and Accreditation Process  
DoD – Department Of Defense  
DSL – Document Summary List  
E<sup>3</sup> – Electromagnetic Environmental Effects  
ETC-IS – Exportable Training Capability Instrumentation System  
EXCON – Exercise Control  
GFE – Government Furnished Equipment  
GOTS – Government Off the Shelf  
HITS – Homestation Instrumentation Training System  
IA – Information Assurance  
IAVA – Information Assurance & Vulnerability Alert  
IAW – In Accordance With  
ICD – Interface Control Document  
IMS – Integrated Master Schedule  
IPR – Interim Program Review  
IPUR – IRS Player Unit Radio  
IRS – Interim Range System  
IUID – Item Unique Identification  
LT2 – Live Training Transformation  
MILES - Multiple Integrated Laser Engagement System  
NET – New Equipment Training  
PDD – Product Definition Data  
PEO STRI – Program Executive Office for Simulation, Training, and Instrumentation  
PIT – Platform Information Technology  
PM TRADE – Project Manager Training Devices  
RF ID – Radio Frequency Identification Tag  
SOW – Statement of Work

STIG – Security Technical Implementation Guide  
TES – Tactical Engagement Simulation  
TRR – Test Readiness Review  
UID – Unique Identification

## **9.0 Glossary**

HITS: Homestation Instrumentation Training System: LT2 Product that provides instrumentation support, command and control, battlefield simulation and After Action Review for Battalion and below live collective training events.

TRECCS: Training Range Exercise Command and Control Suite: The core HITS hardware and software.